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10/561,440	12/20/2005	Giancarlo Brun	4284-0102PUS1	6373
2292 7590 06/24/2009 BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747				
EXAMINER KRAUSE, JUSTIN MITCHELL				
ART UNIT 3656		PAPER NUMBER		
NOTIFICATION DATE 06/24/2009		DELIVERY MODE ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

# Office Action Summary

**Application No.**

10/561,440

**Applicant(s)**

BRUN, GIANCARLO

**Examiner**

JUSTIN KRAUSE

**Art Unit**

3656

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 27 March 2009.  
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 24-57 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 24-57 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on 20 December 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO/5508)  
Paper No(s)/Mail Date \_\_\_\_\_

- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_  
5) ☐ Notice of Informal Patent Application  
6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Drawings***

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "plurality of female screws" (claim 29), "the screws comprising internally threaded bushes fitted in the hole of at least one of the bearings contained in the sleeve" (claim 30), "the female screws have diameters of different values" (claim 31), "the female screws can be placed into a condition not in contact with the screw, independently from each other" (claim 32), "only a selected female screw can be placed in contact with the screw to obtain an advance per turn of the screw dependent upon the diameter of the specific female screw being used" (claim 33), "the diameters of the screws have a value whereby when all of the female screws are in a condition of detachment from the screw, the screw can slide freely on the bearings" (claim 34), "one or more of the screws are replaced with externally threaded bearings" (claim 35), "a plurality of female screws" (claim 38), "the female screws are not coaxial with each other" (claim 39), "an idle main screw and transmission means" (claim 41), "the enter sleeve" (claim 42), "the transmission means is belts and gears" (claim 43), "a locking/unlocking system" (claims 45, 46), "a "free wheel" device" (claims 47,48), "the female screws have diameters of different values" (claim 49), "the plurality of female screws have different diameters but only one is selected to remain in contact with the main screw so as to obtain an advance per turn of the main screw based upon the diameter of the selected female screw" (claim 50),

the diameters of the screws have a value whereby when all of the female screws are in a condition of detachment from the screw, the main screw can slide freely on guide bearings disposed in the sleeve" (claim 51), "the female screws are provided with circumferential throats" (claim 52), "the main screw is provided with circumferential throats" (claim 53), "one or more female screws are replaced with externally threaded bearings" (claim 54), "externally threaded bearings are adapted to be placed in contact with the main screw to obtain advances per turn of a greater value with respect to the pitch of the threading of the main screw" (claim 55), "synchronization is actuated through the use of a motor reducer with a low transmission ratio" (claim 56), "the thread of the female screw can be brought into a condition of contact and non-contact with the thread of the main screw" (claim 57). must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the

renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 29-35, and 38-57 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The specification fails to provide adequate disclosure to permit one of ordinary skill in the art to make and use the device without the use of undue experimentation.

In claims 29-34, it is not understood how a plurality of female screws are contained in the sleeve, the screws have diameters of different values, how the screws can be placed into a condition not in contact independent of one another, where only one screw can be placed in contact with the screw and where all of the female screws have diameters such that when all of the female screws are detached from the screw,

the screw can slide freely on the bearings. The drawings fail to disclose a plurality of female screws, therefore it cannot be determined how the screws are arranged. The specification fails to detail, in any manner how the female screws can be placed into a contact, or non-contact position, or how the female screws can all be placed in a detached condition so that the screw can slide on the bearings. It is not understood how the device operates in this arrangement, and therefore not understood how one of ordinary skill in the art could make or use the device based on the disclosure provided.

Regarding claim 35, since it is not understood how an arrangement with a plurality of female screws is made or used, it is further not understood how the plurality of female screws can be replaced with externally threaded bearings, as it is not understood how the externally threaded bearings would be arranged either.

Regarding claims 38, it is not understood how the an arrangement of a plurality of female screws is provided for selective engagement, as it is not understood how the selective engagement is facilitated, no structure has been shown or disclosed which enables the selective engagement function to occur.

Regarding claim 41, there is no disclosed idle main screw, nor is there a disclosed structure of transmission means in sufficient detail to permit the device to be made or used. The drawings fail to show either an idle main screw, or a transmission means which selectively places a female screw in rotation relative to the main screw. Absent any disclosure as to how the transmission means is structured or how it functions, it is not understood how the device can be made or used.

Regarding claim 42, it is not understood what the enter sleeve is, or how it is placed in rotation. The specification fails to provide any detail of the enter sleeve.

Regarding claim 43, it is not understood how the belts and gears which comprise the transmission means is arranged. There is no disclosure of transmission means within the drawings, it is not understood how any belts or gears are arranged with respect to the device which would permit operation of the device. It is not understood how one of ordinary skill in the art could make or use the device with belts and gears since there is no detail provided as to the structure and arrangement of the transmission means.

Regarding claim 44, it is not understood how or where the preload is applied, or what structure provides a preload to the main screw.

Regarding claims 45 and 46, there is no disclosure of a locking/unlocking system, nor is any type of locking/unlocking system shown in the drawings. It is not understood how the locking/unlocking system is arranged, what it does, how it operates or is operated. One of ordinary skill in the art would not understand how to make or use the device with a locking/unlocking system based on the disclosure.

Regarding claims 47 and 48, there is no disclosure of a "free wheel" device. It is not understood what such a device is, how or where it is located within the device or how it interacts with the remainder of the components in the device. The drawings fail to disclose a "free-wheel" device. It is not understood how one of ordinary skill in the art could make or use the device including a "free wheel" device, since the disclosure

fails to provide the necessary structural relationships to permit an incorporation of the "free wheel" device with the rest of the components in the device.

Regarding claims 49-51, there is no disclosure of the diameters of the female screws. It is not understood how these differing diameters are determined in order to permit contact or detachment from the main screw, and it is further not understood how the screws are selected to remain in contact. The drawings fail to show a plurality of female screws, and it is not understood how any arrangement of a plurality of female screws is arranged, the order in which the differing diameters are arranged, or how the plurality of screws is arranged to effect the selection and detachment from the main screw.

Regarding claims 52 and 53, it is not understood what the circumferential throats are, how they are arranged or how they facilitate the function recited. No such structure is shown within the drawings, and the specification fails to provide sufficient disclosure to permit adequate understanding to enable one of ordinary skill in the art to make or use the device.

Regarding claims 54 and 55, it is not understood how the female screws are replaced with externally threaded bearings. Such an arrangement is not shown by the drawings, and is not described with sufficient detail to permit one of ordinary skill in the art to make or use the device.

Regarding claim 56, it is not understood how the synchronization is actuated through the use of a motor reducer with a low transmission ratio. The drawings fail to



show a motor reducer, or a synchronization device of any kind, and the specification fails to provide any level of detail as to where the motor reducer is provided, how it interacts, or what it interacts with that allows it to synchronize the screws.

Regarding claim 57, it is not understood what permits the thread of the female screw to be brought into a condition of contact and non-contact with the thread of the main screw. There is no disclosed structure, or any structure which is shown in the drawings, which permits an engagement and disengagement function between the screws. It is not understood how the device would function.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 24-35, and 38-57 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 24, Claim element “means operatively associated with the screw and the female screw to provide synchronized movement” is a means (or step) plus function limitation that invokes 35 U.S.C. 112, sixth paragraph. However, the written description fails to disclose the corresponding structure, material, or acts for the claimed function. There is no disclosed synchronization means provided.

Applicant is required to:

(a) Amend the claim so that the claim limitation will no longer be a means (or step) plus function limitation under 35 U.S.C. 112, sixth paragraph; or

(b) Amend the written description of the specification such that it expressly recites what structure, material, or acts perform the claimed function without introducing any new matter (35 U.S.C. 132(a)).

If applicant is of the opinion that the written description of the specification already implicitly or inherently discloses the corresponding structure, material, or acts so that one of ordinary skill in the art would recognize what structure, material, or acts perform the claimed function, applicant is required to clarify the record by either:

(a) Amending the written description of the specification such that it expressly recites the corresponding structure, material, or acts for performing the claimed function and clearly links or associates the structure, material, or acts to the claimed function, without introducing any new matter (35 U.S.C. 132(a)); or

(b) Stating on the record what the corresponding structure, material, or acts, which are implicitly or inherently set forth in the written description of the specification, perform the claimed function. For more information, see 37 CFR 1.75(d) and MPEP §§ 608.01(o) and 2181.

Regarding claim 24, it is unclear which bearings are the "associated bearings".

Regarding claim 28, it is unclear what "close proximity" is considered to be.

There is no basis for comparison to permit a determination of what distance is "close".

Regarding claims 35 and 55, the phrase, "to obtain advances per turn of a greater value with respect to the pitch of the threading of the screw itself" is unclear. It cannot be determined what the phrase is attempting to recite.

Regarding claim 42, there is no antecedent basis for "the enter sleeve", and it is unclear what this element is.

Regarding claim 44, there is no basis for comparison to determine what is considered, "extremely precise movement and positioning".

Regarding claims 47 and 48, it is unclear what the scope and meaning of a "'free wheel" device" is. The specification fails to provide adequate definition for what a free wheel device comprises. Further, the use of quotation marks within the claim is improper.

The claims repeatedly use "the screw". Since multiple screws are claimed, it is unclear which screw is "the screw". The claims should specifically refer to the screw being recited.

Regarding claims 29-35 and 38-57, since the limitations and structure claimed are not understood from the disclosure, the scope of the claims is unclear.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 24-57, to the extent understood, are rejected under 35 U.S.C. 102(b) as being anticipated by Brinkhurst (US Patent 2,556,572).

Brinkhurst discloses a rolling screw device comprising:

A main screw (14) provided with external threads, being movable within a sleeve (11) provided with at least one bearing (12, 17, respectively) having a threaded hole forming threads of one or more female screws (15a-c) adapted to form a threaded coupling with the external threads of the main screw, the nominal diameter of the sleeve and associated bearings being greater than that of the main screw, the axis of the female screw being parallel, but not coinciding with the axis of the main screw, and means operatively associated with the screw and the female screw to provide synchronized movement therebetween.

Regarding claim 25, the bearing has a threaded hole mounted eccentrically with respect to the axis of the screw.

Regarding claim 26, threads of the screw and threads of the female screw engage each other along a generatrix of the threaded coupling and not on the entire surface thereof (fig. 3).

Regarding claim 27, the angular speed of the screw is greater than the annular speed of the female screw (the diameter is larger and the pitch is the same, therefore the female screws rotate at a slower speed).

Regarding claim 28, guide bearings (12) are disposed in the sleeve in close proximity to the screw.

Regarding claims 29-35 and 49-51, multiple female screws having different diameters are present (15a-c), and may be engaged or disengaged with the main screw (via levers 16).

Regarding claim 37, the bearings are adapted to bear both radial and axial loads.

Regarding claim 40, the sleeve comprises two half shells (11, see fig. 3).

### ***Response to Arguments***

Applicant's arguments with respect to claims 24-57 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JUSTIN KRAUSE whose telephone number is (571)272-3012. The examiner can normally be reached on Monday - Friday, 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Ridley can be reached on 571-272-6917. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Justin Krause/  
Examiner, Art Unit 3656

/Thomas R. Hannon/  
Primary Examiner, Art Unit 3656